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AUTHOR	Orvik, James M.
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ABSTRACT

The purpose of this study is to assess the English vocabulary of Eskimo pupils entering a bilingual education program by establishing a normative criterion based on the vocabulary levels of children whose first language is English. The tests used, "Raven's Coloured Progressive Matrices" and "English Receptive Vocabulary," bear out the anticipated differences; a norm is established for Eskimo children although there is considerable difference between the two language groups. The discussion of results raises the possibility that cultural factors in test-taking behavior influence score differences in nonverbal domains of intellectual functioning. (Author/VM)

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Final Report

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James M. Orvik
Center for Northern Educational Research
University of Alaska
Fairbanks, Alaska 99701

A STUDY OF ENGLISH VOCABULARY COMPARING ESKIMO AND CAUCASIAN CHILDREN

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ABSTRACT

English vocabulary levels of Alaskan Eskimo children whose first language is Yupik were compared with those of urban Caucasian children whose first language is English. A norm was thus established for Eskimo children entering into bilingual education programs. The anticipated differences were confirmed and some discussion was given to possible cultural factors in test-taking behavior influencing score differences in nonverbal domains of intellectual functioning.

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
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PREFACE

The assistance of Dr. Dayton Benjamin of the Fairbanks, North Star Borough School District, and the cooperation of all of its elementary school principals are gratefully acknowledged. The role of Ms. Kay Hinckely in gathering the data and generally providing extensive research assistance is also gratefully acknowledged.

Introduction

Early in 1970, plans were started to implement bilingual education projects in Southwestern Alaska. Two agencies, the Bureau of Indian Affairs and Alaska State-Operated Schools were awarded operating funds from ESEA Titles I and VII, respectively. The broad intentions of these agencies are summarized in the proposal submitted by Alaska State-Operated Schools. These were:

> to eliminate the linguistic and cultural handicaps Eskimo children now face in schools whose program was designed primarily for English-speaking children. The target group consists of Yuk-speaking Eskimo children in the Southwestern Alaska area who are grievously disadvantaged, both economically and educationally. With early instruction primarily in Eskimo, and English taught as a second language, it is expected that the children will become literate in both languages and progress academically at a rate comparable to English-speaking children. Materials drawn from the child's experiential background will be created to facilitate learning and to develop in the child a pride in his native language and culture at the same time he is learning the language and culture of Caucasian America (Gordon, 1970, p. 3).

So far, approximately one hundred Eskimo-speaking children have received early instruction in the Yuk dialect of Eskimo with English taught as a second language. As part of the ongoing evaluation component of these projects, the children were tested to establish a pretest baseline with a variety of linguistic tests and tests of general nonverbal intelligence. Posttest results generally indicated the bilingually taught students gained more vocabulary, both in Yuk and in English than those children attending schools in nearby villages where a traditional form of instruction was carried out.

Despite evidence of vocabulary gains in the target villages the question remained whether the village children were approaching a level of performance normatively associated with children whose first language is English. In order to establish a performance criterion with which to compare village children it was necessary to test a nonvillage group of children whose first language is English. Permission was received from the Assistant Superintendent of the Fairbanks North Star Borough Schools to test twenty-five kindergarteners and seventy-six first graders.

Method

Subjects: Caucasian - Twenty-five kindergarteners and seventy-six first graders were randomly selected from six different urban elementary schools in an urban Alaska school district. Their ages were matched to the age distribution of the Eskimo children already tested. Native children and children whose first language was other than English were excluded from the sample.

Eskimo - Twenty-five kindergarteners from a large Eskimo (Yupik speaking) village and eighty-one first graders from surrounding smaller villages (also Yupik speaking) constituted the rural village sample.

Tests: Raven's Coloured Progressive Matrices (RCPM) -- The Coloured Matrices are designed for use with young children and old people, for anthropological studies, and for clinical work. They have been used satisfactorily with people who, for various reasons, cannot understand or speak the English language. The scale as a whole can be described as "a test of observation and clear thinking." By itself, it is not a test of "general intelligence", and it should be used in conjunction with a vocabulary test to establish the extent to which differences in vocabulary level may be attributed to nonverbal domains of ability.

English Receptive Vocabulary (ERV) -- This vocabulary test used pictures to elicit responses to a predetermined set of English words. The test is modeled after standard picture tests, such as the Peabody Picture Vocabulary Test (Dunn, 1959) and the Ammons Quick Test (Ammons), but uses picture content indigenous to Alaska.

Both tests were part of a larger battery used in conjunction with the evaluation of bilingual education programs in Southwestern Alaska.

Procedures: One tester administered the battery to all subjects. Both tests were given at a single seating to minimize disruption of ongoing classroom activities. A quiet, isolated area was provided at each school for the testing. Test administration took approximately forty minutes per child and the total sample were tested within two months beginning in March 1972.

Results

The main research question in the study was the extent to which score differences exist between Yupik-speaking Eskimo pupils and like-age English-speaking Caucasian pupils on an experimental English picture vocabulary test (ERV). Table 1 summarizes the results for two grades, kindergarten and first. As was expected, there were extensive score differences between the two

TABLE 1

Means and Standard Deviations of
Test Results by Grade and Language Group

Grade/Test	Language Group						t^a
	English			Eskimo			
	Mean	St. dev.	N	Mean	St. dev.	N	
Kindergarten							
RCPM	16.56	2.33	25	12.92	2.18	25	5.71
ERV	66.48	2.82	25	52.64	5.09	25	9.96
	$r_{RCPM \cdot ERV} = .12$			$r_{RCPM \cdot ERV} = .42^{**}$			
First							
RCPM	19.55	3.76	76	14.21	2.73	81	10.23
ERV	69.20	2.69	76	46.91	5.48	81	45.96
	$r_{RCPM \cdot ERV} = .18$			$r_{RCPM \cdot ERV} = .21^{*}$			

[a] All t-test values are significant beyond $p < .01$.

$^{*}p < .05$
$^{**}p < .025$

language groups on both the Raven's Coloured Progressive Matrices (RCPM) and the English Receptive Vocabulary Test (ERV).

Table 1 also shows the correlations between the two tests for each language group and grade. These correlations are generally low and positive but are significant in magnitude for the Eskimo children (both grades) but not the Caucasian children.

Conclusions

The purpose of this study was to assess the English vocabulary of Eskimo pupils entering into a bilingual education program by establishing a normative criterion based on the vocabulary levels of children whose first language is English. The broad conclusion can now, of course, be drawn that there is considerable distance between the two language groups. It should be noted that the village children have large Yupik vocabularies (measured by the same general technique). This fact, combined with the present results constituted the main rationale for the need of a special language program in the villages.

A note is also in order concerning the apparent inconsistency between the ERV scores for first grade and kindergarten Eskimo children, insofar as the latter scored higher than the former. There is no real inconsistency because the first grade sample were drawn from villages where the Native language is much more viable and English is spoken quite rarely.

The Raven Coloured Progressive Matrices (RCPM) was originally included in the present study to give information as to the possibility of nonverbal intellectual factors mediating the expected vocabulary differences. Information has since come to light in the form of anecdotal observations that the standard instructions (translated into Yupik) in the RCPM manual tend to have an interaction with certain cultural factors, depressing the scores of Eskimo children inordinately. The instructions require the tester to press the child on his answers to ... "be sure that's the right one". Eskimo children tend to take this as a cue that their answer is wrong and will often change it to an incorrect one.

The significant correlation between the RCPM and the ERV for Eskimo children but not for Caucasian presents an opportunity for some speculation. Among all possible theories the present author rejects the inviting notion that the capacities underlying each measure simply are related in Eskimo children but not in Caucasian children. Rather, the explanation may lie in the difference between the two language environments, which may mediate the extent to which a child possesses the cultural trait discussed above in reference to unique score-depressing behaviors on the part of the Eskimo child. Support for this explanation comes from the higher correlation between the two tests seen among children in the large Eskimo community (kindergarten) where the children are exposed much more intensely to both the English language and the dominant

culture patterns, in school as well as in the community. The amount of bilingual and bicultural exposure varies with the child and could well account for the apparent association between the capacities measured by the RCPM and the ERV. The net effect is to allow one to maintain the assumption that the RCPM is indeed a "nonverbal" test of intellectual ability but is in no way free from cultural bias, even, or especially, when its instructions are directly translated into a non-Western tongue.

REFERENCES

Ammons, R.B. and Ammons, C.H. The Quick Test. Psychological Test Specialists, 1958.

Dunn, L.M. Peabody Picture Vocabulary Test. American Guidance Service, Inc., 1959.

Gordon, B.R. Funding Proposal: Alaska State Operated Schools Bilingual Education Project. 1970, mimeo.

Raven, J.C. Guide to Using The Coloured Progressive Matrices. Los Angeles: Western Psychological Services, 1965.